

# **EXHIBIT 4**

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PATENT APPLICATION  
Attorney's Docket No.: 1159.1006-007



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

*A. Lawrence*  
*#41a*  
*1.8.2.02*

Applicants: Steven A. Bogen, Herbert H. Loeffler and John A. Purbrick  
Application No.: 09/688,619 Group: 1743  
Filed: October 16, 2000 Examiner: J. Snay  
For: Random Access Slide Stainer with Independent Slide Heating Regulation

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231	
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Date	Signature
<u><i>DEREK A. VAUGHN</i></u>	
Typed or printed name of person signing certificate	

AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

RECEIVED  
JAN 15 2002  
TC 1700

Sir:

This Amendment is being filed in response to the Office Action mailed from the U.S. Patent and Trademark Office on September 10, 2001 in the above-identified application. Reconsideration and further examination are requested.

Please amend the application as follows:

In the Claims

Please cancel Claim 4 without prejudice.

09/688,619

-2-

Please amend Claim 1. Amendments to the claim are indicated in the attached "Marked Up Version of Amendments" (page i).

1. (Amended) A method of processing samples mounted on microscope slides comprising:
- placing two or more microscope slides on a moving platform, the moving platform having heating elements thereon to heat said slides;
  - communicating data from a computer not located on the moving platform to electronic circuitry mounted on the moving platform; and
  - supplying, from the electronic circuitry on the moving platform, amounts of electrical power to the heating elements dependent on the data, to heat one of the slides to a different temperature than a second one of the slides.

Please add new Claim 5.

5. (New) A method of processing samples mounted on microscope slides comprising:
- positioning a plurality of microscope slides bearing biologic samples on a moving platform, said moving platform having a plurality of heating elements and electronic circuitry thereon;
  - providing a computer comprising a user interface through which a desired temperature for each microscope slide is specified, said user interface being mounted off of the moving platform;
  - sending data from the computer to the electronic circuitry on the moving platform over a group of conductors, the number of conductors in said group of conductors being less than the number of heating elements; and
  - supplying electrical power to the heating elements from the electronic circuitry on the moving platform.

REMARKS

Claims 1-4 were rejected under 35 U.S.C. 112, first paragraph, for failing to recite steps by which staining of biological samples, to which the claims are directed, would be

09/688,619

-3-

accomplished. Claim 1 has been amended to remove reference to staining of biological samples, so it is believed that objection is overcome.

Claim 1 has also been amended to overcome the rejection under 35 U.S.C. 112, second paragraph.

The claims were rejected under 35 U.S.C. 103(a) based on two combinations of references. Although the original claims patentably distinguish those combinations, in order to expedite allowance of the claims, Claim 1 has been amended to parallel the apparatus claims which were issued in parent patent 6,183,693. A new method Claim 5 paralleling Claim 8 of the 6,183,693 patent has been added. For the reasons presented with respect to the parent application and presented below, it is requested that all claims be allowed. Applicant reserves the right to file the original claims in a continuation application.

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bogen et al. (U.S. Patent 5,645,114) in view of Muller et al. (U.S. Patent 5,273,905) or Potter et al. (U.S. Patent 5,819,842). As applied to the amended claims, that rejection is respectfully traversed and reconsideration is requested.

The Examiner acknowledges that Bogen et al. fails "to recite each of the heating elements having the capability of heating to different temperatures." For that feature, the Examiner has cited the Muller et al. and Potter et al. references.

Although the ability to heat the heaters to different temperatures is a distinction of the pending claims, the claims under consideration are directed to a specific implementation of such independent control of heating elements on a moving platform, and the claimed implementation is not suggested by any of the references. In particular, in the actual implementation of the system disclosed in Bogen et al., the sets of heating elements were individually controlled, but control was directly from the stationary user interface computer. Accordingly, in one implementation discussed in the paragraph bridging pages 7 and 8 of the present application, ten slide frames on the moving platform required a service loop containing a minimum of 30 wires between the stationary computer and the moving heating elements.

As the number of heaters on the moving platform increases, it becomes impractical to electronically control them via direct connections to a stationary computer. The large number of wires comprising the wiring harness, or "service loop" as it is commonly called, connecting the

09/688,619

-4-

heaters on the rotary carousel to the computer is problematic. The wire bundle is stiff, precluding smooth carousel revolution and indexing. In addition, repeated flexion of wires can cause them to break. This issue is discussed in the patent specification in the paragraph bridging pages 15 and 16.

In accordance with the present invention, the number of wires required between the stationary computer and the moving heating elements is substantially reduced by mounting additional temperature controller electronics on the moving platform to regulate the electrical power to the heating elements in response to data received from the computer. Encoded data is communicated from the computer over a reduced number of conductors, and the data is then decoded by the temperature control circuitry on the moving platform to appropriately regulate the power to the plural heating elements.

Not only has the Bogen et al. reference failed to recite that the heating elements are capable of heating to different temperatures, as acknowledged by the Examiner, Bogen et al. has failed to suggest temperature control circuitry mounted on the moving platform.

The Muller et al. and Potter et al. references relate to systems in which the samples are stationary. It is respectfully submitted that there is no suggestion of combining those references with Bogen et al. in order to provide independent temperature control to heating elements on a moving platform. More importantly with respect to the claims under consideration, because those secondary references fail to disclose any moving platform, they can provide no suggestion of addressing the problem overcome by the present invention, the problem of controlling the heating elements on a moving platform. Thus, even if one were to accept the Examiner's position in the last Office Action with respect to independent temperature control, there is no suggestion in any of the references of a temperature controller mounted on the moving platform and responding to data received from a stationary computer as recited in each of the claims under consideration.

Claims 1-4 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Muraishi (U.S. Patent 5,154,889) in view of Muller et al. or Potter et al. That rejection is respectfully traversed and reconsideration is requested.

As argued in detail in applicant's prior application, 09/205,945, there is no suggestion in Muraishi of providing slide heaters on a moving platform. More specifically, with respect to the claims of this application and as acknowledged by the Examiner, "Muraishi fails to specifically

09/688,619

-5-

recite each the heating elements having the capability of heating to different temperatures." In fact, Muraishi teaches much less than Bogen et al. because the apparatus of Bogen et al. is capable of individual temperature control; whereas, Muraishi has the goal of uniform temperature control of all samples in an incubator.

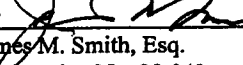
For the reasons discussed above, Muller et al. and Potter et al. fail to suggest the independent temperature regulation by controller circuitry on the moving platform in response to data from a stationary user interface computer and thus fail to suggest the claimed invention.

#### CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By   
James M. Smith, Esq.  
Registration No. 28,043  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

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